was affected, and the initial thrombosis then occurred in the proximal part of the vessel, whence it spread downwards to the bifurcation. In main vessels thrombus propagation was the principal method of spread, thrombosis at a fresh site in a main artery being uncommon. It had occurred in only 3% of his cases.

Mr. Mavor discussed then the role of the lower leg vessels. While rarely the site of initial thrombosis, they became thrombosed secondarily. It was the extent of main vessel thrombosis which largely determined the manifestations of the disease. In 60% gangrene was the culmination of years of increasing peripheral vascular insufficiency, and surgically the problem was often best dealt with before its onset. Once the stage of femoro-popliteal thrombosis was reached, the time for surgery was limited, as most patients with pain at rest and skin changes in the foot developed gangrene within six months.

Mr. Mavor then described experiences with the by-pass graft. Its greatest advantages were that the anastomosis could be made of reasonable size and that the best points for insertion of the graft could be selected. At the same time collateral branches were preserved. Arterial homografts were to be preferred. In cases with femoral artery thrombosis the proximal anastomosis should be made proximal to the origin of the profunda femoris; the distal could be made to the proximal popliteal artery, if it were healthy, but was probably better fashioned to the terminal segment of popliteal artery at or below knee-joint level, as this segment of vessel was generally healthy and free of inconvenient branches. But in femoral-popliteal thrombosis there was no choice in the siting of the anastomosis. So far the longest follow-up he had made of a by-pass graft had been 11 months, and Mr. Mavor thought the justification for grafting procedures for limited thrombosis was still open to question. Collateral channels might be reduced and the long-term future of arterial homografts was still unknown. However, he felt there was adequate justification for interference in cases with femoral-popliteal thrombosis.

In Nigeria, "active opposition to vaccination, particularly by local vested interests such as a gerontocratic oligarchy of 'juju' priests, fetish men and witch doctors, is, happily, a thing practically of the past; and, thanks largely to the efforts of that great Nigerian physician and pioneer in maternity and child welfare work, Dr. O. Sapara, the menace of dangerously hostile smallpox secret societies, such as the 'sopono' cult of the Yoruba country in Western Nigeria, now no longer stalks the land as it did two or three generations ago. The story of this feat is interesting and perhaps worth retelling. Dr. Oguntola Sapara, I.S.O., L.R.C.P.&S.Ed., was a medical officer in the Nigeria Medical Service from 1896 to 1927. The 'sopono' cult (now proscribed by law) was a powerful and dreaded secret society of the large and influential Yoruba tribe. The method of operation of its members was to infect with smallpox virus a person or household whom they had unsuccessfully attempted to blackmail: this they did by the application of scrapings of the skin rash of actual smallpox cases, or of other fomites. Previous vaccination would of course protect the prospective victim from attack from smallpox as intended—hence the cult's opposition to vaccination. Often also, by deliberately disseminating infective variolous matter, they artificially created epidemics of smallpox in order to increase their clientele and produce numerous patients for them to 'cure'—and vaccination would stop all that! At great personal risk Dr. Sapara, himself a Yoruba, joined the cult incognito, learnt their secret, and later helped Government to introduce legislation which banned the cult as an illegal organization. Our problem, now, is different: it is not so much one of opposition by the people to vaccination as the need to find a thermo-stable smallpox vaccine which will retain its potency for long periods under 'bush' conditions, and particularly in the dry and hot climatic conditions of our most northerly territories."—*Annual Report on the Medical Services for the Year 1953-4*, Federation of Nigeria.

# Correspondence

*Because of heavy pressure on our space, correspondents are asked to keep their letters short.*

## Treatment of Intracranial Metastases

SIR,—I read the article on adrenalectomy for intracranial metastases from carcinoma of the breast, by Mr. Allan Clain and Mr. Alan H. Hunt (*Journal*, September 15, p. 627), with much interest. I am, however, in some doubt about their conclusion that the "operation of bilateral gonadectomy and adrenalectomy is at present the only possible treatment of value for patients with intracranial metastases from cancer of the breast." The following case history shows that radiotherapy in conjunction with hormone therapy may also cause regression of an intracranial metastasis.

A woman aged 45 had a radical mastectomy in April, 1953, for an anaplastic small duct carcinoma of the left breast. She remained well until the autumn of 1955, when she began to suffer from pain in both groins. She was admitted to hospital in December, 1955, complaining of headaches, inability to concentrate, a feeling of pressure on top of the head, pain in the upper part of the back encircling the chest, in the lower part of the back and in both groins, and also of severe thirst. She looked ill and pale and was unable to move without severe pain. She was passing large

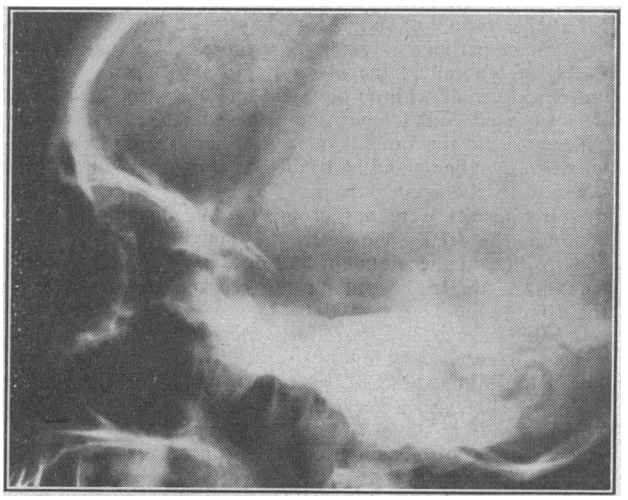

FIG. 1

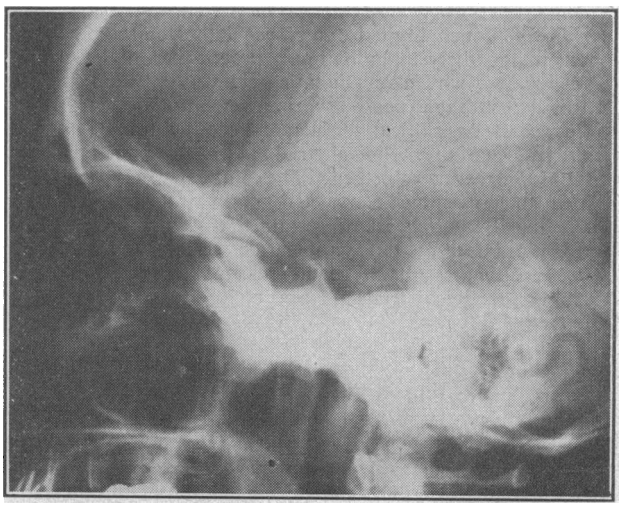

FIG. 2

amounts of urine. An *x*-ray of the skull (Fig. 1) showed expansion and almost complete destruction of the sella turcica. The most painful lesions in the dorsal spine and pelvis and also the region of the pituitary gland were treated with *x*-ray therapy. Four weeks after the beginning of the *x*-ray treatment to the pituitary gland the thirst became less severe; ten days later it was completely relieved and she was passing a normal amount of urine. When the patient was discharged three weeks later the headaches and the feeling of pressure on top of the head had subsided, the power of concentration had improved, and the pain in the back and groins was less severe. She was then given methyl-androstanolone for five months. There was a steady improvement in her condition, she put on 1½ stones (9.5 kg.) in weight, and an *x*-ray of her skull (Fig. 2) showed recalcification of the sella turcica. When the patient was seen last month, her general condition was good and there were no further symptoms of diabetes insipidus.—I am, etc.,

London, W.C.1. GWEN HILTON.

## Glycyrrhetinic Acid

SIR,—Correspondence regarding glycyrrhetinic acid ointment reveals a difficulty which often attends the introduction of new remedies. Extracts of liquorice were shown to have certain cortisone-like properties when given internally, though not sufficient to be of much therapeutic value. Early this year a circular from a manufacturer informed us that glycyrrhetinic acid was an active principle and that local application was effective in diseases of the skin. Ointment and lotion containing glycyrrhetinic acid were recommended for a wide variety of skin disorders, though there was apparently no experimental work to support this claim. About this time I accepted the invitation of the makers to carry out clinical trials with an ointment and a control base which they supplied, and I have since learned that several of my colleagues did the same. In June I had assessed the ointment in 22 patients and had failed to show that it was at all superior to the control base. The makers were informed that my results were not promising but that I wished to continue the trial. However, they informed us that the composition of the ointment had now been altered and that it was shortly to be put on the market, prescribable on E.C.10.

Speaking generally, the effectiveness of a new ointment is usually very easily established if it is really much use. The astonishing value of hydrocortisone ointment can be strikingly shown in a very small series of suitable cases and leaves nobody in doubt. When an ointment such as glycyrrhetinic acid fails to show convincing results in as few as 20 cases, one cannot of course say that it has proved to be inactive, and a series of this size with negative results seems hardly worth publishing; it is very much more difficult to prove a negative than a positive in this respect. But surely even such limited experience indicates that the ointment is not likely to be of much practical value. Certainly one wonders why glycyrrhetinic acid was released for prescribing at public expense at a time when not a single favourable report on clinical trials had been published. This is not to argue that clinical trials with glycyrrhetinic acid should proceed no further. The ointment may at last be shown to have some unexpected action or some slight clinical value, though it seems certain that this will be of only academic interest; but until larger series have produced some positive results it seems reasonable to confine prescribing to clinical trials.—I am, etc.,

London, W.1. F. RAY BETTLEY.

## Sickling in an African Community

SIR,—Dr. W. A. Wilson (*Journal*, August 25, p. 481) has criticized our article (*Journal*, August 11, p. 333) in which we discuss the mechanics of balanced polymorphism in the Baamba tribe. He differs in the calculation of the mortality of normal (non-sickling) homozygotes which he assesses at 27% as opposed to our 24.2%. Dr. Wilson's figure is based on the assumption that 157 deaths occurred in a "mean population"—i.e., one falling from 648 to 491. A cumulative death rate is, however, calculated upon the original population, and in our example is therefore 24.2% of the normal homozygotes born. We were concerned to show that in two situations the relative genetic fitness of the normal homozygote could be the same (in our example expressed by a loss in each case of 24.2% *of the normal homozygotes exposed to the selective process*), and yet the actual number of observable deaths from the selective factor could be quite different.

Dr. Wilson devises a formula for measuring malarial and non-malarial mortality at any given time. He assumes that the decline of population follows similar curves in both, and hence concludes that the proportional loss of life from malaria would be constant at any given mortality. Our argument is, however, based on the accepted view that at one period of childhood malarial mortality occupies far the greatest part of the total mortality, but that it is of less importance before and after that age (10–36 months).

Lastly, Dr. Wilson sees "a big gap to be closed between the 24% reduction in population needed by this hypothesis and the 7% or so which malaria can effect." The figure of 7% refers to all children, sicklers and non-sicklers alike, the 24% refers to non-sicklers only, and represents an observable loss of life from malaria between 6.9% and 15.7% of all children born. We gave reasons for expecting the actual death rate in Bwamba to be nearer the lower limit. Thus there is indeed little "gap" left, barely enough for Dr. Wilson to extract his "red herring."—We are, etc.,

London, E.C.1. H. LEHMANN.
Kampala, Uganda. A. B. RAPER.

## Medical Education

SIR,—May I please beg space in your columns to reply to the letter by Mr. John B. Williams (*Journal*, September 29, p. 767)? He suggests that there is an element of "unrealism" about my scheme for the education of the "compleat doctor," in that such a scheme would mean that a doctor would be in his thirties by the time he was established, and he implies, I think, that this is in part due to my recommendation in respect of the statutory period of National Service.

Several points arise. First, I would question whether being in one's thirties on becoming established is necessarily evil: there is nothing new in this, and I feel that to fulfil a family doctor's role adequately before the age of 30 is unusual. Secondly, I would question whether this is in fact demanded by my recommendations: my own experience was to become established as a principal at 31, in spite of more than six years' war service, but I quite realize that this was in exceptional circumstances. But if a man qualifies at 24 he should be in a position to enter practice at 28, and he would do so very much better fitted to his task than is now customary. Thirdly, on entering practice as either principal or assistant, the young doctor would have been earning for a full four years, so that the question, "Who pays?" scarcely arises. Fourthly, marriage really cannot be considered in the production of good family doctors: again I quote from experience—I married at 25, still a junior student, with no capital whatsoever, and I would hesitate to suggest that this has in any sense impeded my professional career. Finally, I would stress that the reasons for my recommending the early undertaking of National Service were twofold; not only to use it as a ready-made course in "lifemanship," but to avoid the likely waste of time and frustration accompanying its intrusion into his professional life at a later date; and the time at which he does his National Service will not affect its duration, so that it can have no bearing on his age at entry into practice. I trust none of your readers read into my words any suggestion that manhood could be achieved in no other way.—I am, etc.,

Upton, Hunts. JOHN K. PATERSON